



FINAL

Former Naval Station Treasure Island Restoration Advisory Board (RAB) Meeting Minutes

Meeting 182

19 April 2016

Community Restoration Advisory Board (RAB) Members in attendance:

Nathan Brennan, John Gee, Becky Hogue, Alice Pilram (Community RAB Co-Chair), Dale Smith

Department of the Navy and Regulatory Agency RAB Members in attendance:

Keith Forman, Navy RAB Co-Chair
Alec Naugle, San Francisco Bay Regional Water Quality Control Board
(Water Board)
Remedios [Medi] Sunga, California Department of Toxic Substances Control
(DTSC)

Other Navy and Regulatory Staff and Consultant Representatives in attendance:

Dave Clark, Navy	Kimberly Noble, Navy
Yashekia Evans, Tetra Tech, Inc.	Nathan Schumacher, DTSC
Zach Edwards, Navy Radiological Affairs Support Office (RASO)	Tommie Jean Valmassy, Tetra Tech, Inc.
Bill Franklin, Navy	Chris Yantos, Navy
Pat McGinnis, Chicago Bridge & Iron (CB&I)	

Public Guests in attendance:

Bob Beck, Treasure Island Development Authority (TIDA)	Kathryn Lundgren, resident
Carol Harvey, journalist	Praise Lundgren, resident
	Quinn Lundgren, resident

Welcome Remarks and Agenda Review

Keith Forman (Base Realignment and Closure [BRAC] Environmental Coordinator [BEC]) opened the April 2016 RAB meeting for the Former Naval Station Treasure Island (NAVSTA TI), held at the Casa de la Vista (Building 271) on Treasure Island (TI). Mr. Forman introduced participants and reviewed the agenda (Attachment A), noting designated times for community question and answer periods.

Mr. Forman said the Treasure Island Development Authority (TIDA) is hosting a question and answer session tomorrow night, Wednesday, April 20 at 6:30 p.m. Mr. Forman and Dave Clark (Navy) will be present to answer community questions.

Old Business – RAB Minutes Approval

Minutes for meeting 181, February 2016, were presented for approval. No edits were requested. The minutes were approved and will be finalized.

Old Business – BRAC Cleanup Team Update

Nathan Schumacher (DTSC Community Involvement Specialist) provided an update on some of the work DTSC has done since the last RAB meeting. Mr. Schumacher said DTSC worked with the California Department of Public Health (CDPH) to provide comments on the Site 6 Final Status Survey and the Site 30 Radiological Work Plan Addendum. DTSC also prepared a negative declaration for the Site 12 Proposed Plan/Draft Remedial Action Plan. Mr. Schumacher said DTSC also provided comments on the Finding of Suitability to Transfer (FOST) 5.

Alec Naugle (Water Board) said he is currently filling in for Myriam Zech, who usually attends the RAB meetings. The Water Board recently signed the Site 32 Record of Decision and provided comments on FOST 5. In addition, the Water Board will review the Site 24 Remedial Design/Remedial Action Work Plan (RD/RAWP), but may request an extension to the due date.

New Business – Site 6 Upcoming Field Work and Site 12 Proposed Plan/Draft Remedial Action Plan

Mr. Forman and Mr. Clark presented the updates (Attachment B). Site 6 was the firefighter training area, where sailors learned to extinguish fires. Significant progress has been made at Site 6 through following the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. A remedial design has been prepared and the remedial action field work will begin soon.

Site 6 has been divided into three sections to expedite cleanup. The Navy collected pre-design samples to better define the cleanup locations. Those results were previously presented to the RAB. Mr. Clark showed how the additional samples defined the cleanup boundaries and depths (slides 4 through 7). DTSC had requested the Navy to collect soil gas samples during the pre-design sampling and analyze them for naphthalene. The samples results were collected, analyzed, and all were non-detect.

Mr. Clark explained the remedial design/remedial action work plan was recently finalized and the field crew will mobilize soon to start the field work. There will be various areas of excavation, ranging in depth from 2 feet to 5 and a half feet below ground surface.

Previously, underground storage tank (UST) 240 was removed and the surrounding soil saturated with oil was excavated. Confirmation samples

indicated that no further action is necessary and the Navy will request site closure in the near future.

Another part of the project will include installing seven groundwater monitoring wells. The purpose of the wells is to confirm, through four quarters of monitoring, that groundwater conditions are acceptable and contamination is not migrating to the bay. Mr. Forman noted there are already two active groundwater monitoring wells at Site 6; there will be 7 additional wells for a total of nine at the site.

Mr. Clark said there will be trucks and excavators at the site. The Navy will be following best management practices for safe hauling and dust minimization. The project will include dust and air monitoring in compliance with all applicable rules and regulations.

Mr. Clark reviewed the Site 6 schedule. He said the field work should take approximately 1 month. After completing the field work, a remedial action completion report will be prepared. Four quarters of groundwater monitoring data will also be compiled in a groundwater monitoring report.

Mr. Forman moved on to the update on the Site 12 Proposed Plan/Draft Remedial Action Plan (PP/Draft RAP). The document was mailed to the full NAVSTA TI community on the mailing list. The public meeting to gather community comments was held on March 30, 2016. The public comment period is open through April 21, 2016. Comments can be mailed, emailed, or faxed. Mr. Forman said the Navy will respond to comments in the responsiveness summary that will be included in the next document in the CERCLA process, the record of decision (ROD).

Mr. Forman said this PP/Draft RAP covers only the CERCLA cleanup portions of Site 12, and not the radiological investigation areas. (A separate PP/Draft RAP will be prepared and issued in November 2017 for the radiological investigation areas.)

The PP/Draft RAP proposes the Navy's preferred cleanup alternatives for soil and groundwater Site 12. Mr. Forman said the approach proposed is conservative and includes excavating and hauling soil off of the island. Mr. Forman said there is also an area of petroleum-contaminated soil that will be addressed because the residual petroleum is potentially creating conditions in the soil that allow arsenic to dissolve in the groundwater. Groundwater will be monitored for arsenic after the site is excavated and the groundwater is treated. The soil to be excavated is located near Buildings 1313 and 1311 on Gateview Avenue, and several currently vacant residential buildings will be demolished to access the area to excavate.

Mr. Clark reviewed the history of Site 12. This information helps the Navy understand how the land was used, which aids in discovering the type, location, and source of contamination and in developing a cleanup strategy. After it was built for the Golden Gate International Exposition, NAVSTA TI was planned to be the San Francisco Airport. Some runways were even constructed within Site 12. Instead, however, the site proved to be impractical for the rapidly advancing aviation industry. The Navy traded land to the south that is the current location of the airport for Treasure Island. The end of the finished runway soon became a location to burn or bury waste. The end of one runway aligns with what is known as the deep debris area at Westside Drive. The fact that it was a runway and was paved in the 1940s also indicates that nothing was buried beneath the runway itself, but only at the end of it.

Mr. Clark said the petroleum issue at Gateview Avenue is from the underground tanks associated with a gasoline station in that area in 1939. Mr. Clark said the Navy has collected more than 31,000 samples in over 2,000 locations over time within the housing area. Based on history and data, there is a good understanding of the nature and extent of contaminants of concern, and a final cleanup plan can be prepared.

Mr. Clark reviewed the alternatives for a cleanup, as presented in the PP/Draft RAP. All of the alternatives were evaluated based on the nine criteria listed in the National Contingency Plan. Based on the evaluation, the preferred alternative is excavation followed by biostimulation and natural attenuation. Mr. Clark showed a map with the locations of planned excavation. Other dots on the map indicate areas planned for excavation followed by the biostimulation treatment. Mr. Clark noted there are also areas for smaller excavations, called *de minimis* excavations, planned for numerous areas within the neighborhoods. Mr. Clark reviewed the schedule. All of the excavated material will be radiologically scanned, as a precaution, to clear it for disposal at a California landfill. (Radiological material, if present, would have to be transported to an out-of-state landfill.)

By the end of summer 2016, the cleanup for the entire southern portion of Site 12 is expected to be complete, with the exception of a small area at Westside Drive, within the Solid Waste Disposal Area (SWDA).

Ms. Smith asked if excavation will stop when groundwater is reached for the cleanup at Site 6. Mr. Clark said the depth of excavation is not necessarily based on the level of groundwater. In that area, the Navy has found there is water infiltration at about a five-and-a-half-foot depth, but this will not limit the depth of excavation. Confirmation samples will be collected.

Ms. Smith noted the Water Board requested an extension to the review period for a document. She asked which document was involved and the new due date since the extension applies to all reviewers, including RAB members. Mr. Clark said the document is the Site 24 RD/RAWP. Mr. Forman said he has not yet received the official request from the Water Board. However, he will grant the extension and send a formal email and include the RAB members.

Ms. Smith referred to the numerous samples that Mr. Clark said were collected throughout Site 12. She asked about the distance between most of the samples. Mr. Clark said the samples average about 5 feet apart. Ms. Smith noted that on slide 24, the dots indicating excavation areas, in some cases, cover entire buildings. Mr. Clark said that appearance is an error of scale. The dots were made large so they could be seen in the presentation. However, they are not meant to indicate that any of those buildings will be demolished due to subsurface contamination.

Nathan Brennan (RAB Member) said he has been concerned about the sample locations along Avenue M, just outside of Site 6, that had detections for dioxins. Mr. Clark said that area is being included in the current Site 6 cleanup.

Mr. Forman opened the floor to questions from community members. Kathryn Lundgren (resident) asked about the timing for cleanup at Bayside Drive. Mr. Clark said the cleanup at Bayside Drive will be part of a future project in the northern area of Site 12. There is not currently a project schedule, but it will likely take place in 2017 or 2018. Mr. Forman said the Navy will prepare separate work plans for that area and will provide a presentation at the RAB meeting when that work is being planned or conducted.

Ms. K. Lundgren said she is concerned about potential contamination near her residence and worried about dust in her home and on her vehicle. She asked why the Navy will not recommend to TIDA that residents be moved off of NAVSTA TI. Mr. Forman said the Navy and regulatory agencies fundamentally disagree with Ms. K. Lundgren's characterization of the safety at NAVSTA TI. Mr. Forman said the risks calculated for NAVSTA TI are very conservative.

Carol Harvey (journalist) said that risk assessments and pathways being discussed do not matter because people are sick and that should be addressed. Ms. Harvey said she is concerned about the planned building demolitions in Halyburton Court. She believes the demolition may affect nearby residents and requested that the Navy do whatever it can to make the demolition less dangerous. Ms. Harvey requested that all residents on NAVSTA TI be given comparable housing, by TIDA, somewhere off of the island.

New Business - Document Tracking Sheet and Field Schedule

Mr. Clark presented the Document Tracking Sheet (DTS) (Attachment C). Documents highlighted in yellow will be issued draft or final within the next 60 days. Documents highlighted in blue have comments due on the draft in the next 60 days. Mr. Clark also reviewed the Field Schedule (Attachment D). Upcoming field work will be conducted at Sites 6, 12, 24, 30, and 31, and at Avenue N, as presented at previous RAB meetings, will be wrapping up.

New Business - Co-Chair Announcements and Future Agenda Items

Ms. Pilram said she would like a site tour for RAB members the hour prior to the August 2016 meeting. Mr. Forman confirmed the Navy is planning to conduct that tour again.

Ms. Smith said she is concerned that the RAB did not receive a presentation about the Site 24 RD/RAWP. She would have liked to ask the regulatory agency representatives questions about their proposed strategies. Ms. Smith said she would like the RAB to get presentations not just about the field work, but about the plans being prepared for the field work. Ms. Smith said that the Navy tells the RAB what will be presented during the pre-meeting RAB calls and she feels there is no flexibility. Mr. Forman said he disagrees and has been flexible with what to present. Mr. Forman agreed that Site 12 has dominated the RAB schedule, largely because it is such a large, ever-changing project. Mr. Forman said Ms. Smith may also talk to the RAB Community Co-Chair anytime about presentations she would like the Navy to make. Mr. Forman said Ms. Smith may also call the regulators directly to ask her questions about the Site 24 RD/RAWP. Ms. Smith said she may contact the regulators about this topic.

Community Question and Answer Period

Praise Lundgren (community member) said the Navy representatives often talk about presentations they will give in the future. Ms. P. Lundgren asked why all of the available information is not provided to residents right now. She also asked how the Navy will help residents move off the island. Mr. Forman said moving residents off of the island would never be a Navy function and is an issue for TIDA. He explained that the presentations given during the meeting tonight were timely because they are about upcoming field work. It is not possible to present the entire environmental program at one meeting, so the Navy discusses the most timely topics of the greatest interest. Mr. Forman said the Navy also issues fact sheets and work notices to keep the community informed about activities on NAVSTA TI.

Ms. K. Lundgren said she also feels the timeliness of the Navy's presentations and responses are inadequate. She stated that if a question has been asked at a previous meeting, the Navy should come to future meetings with an answer

prepared. Ms. K. Lundgren said she does not feel the flow of information from the Navy is adequate.

Ms. K. Lundgren referred back to slide 24 from Attachment B. There are different colored dots, but no legend to clarify what they mean. Mr. Clark said the blue dots are the time-critical removal action planned for spring/summer 2016. The pink dots are related to the ongoing removal action in the SWDAs. The green dots are related to the northern areas of Site 12 that will be addressed in 2017/2018. Ms. Lundgren said presenting information without a legend and with the scale of the dots being off is confusing. One should be able to look at the figure and understand it without explanation.

Ms. K. Lundgren said she is concerned about some of the demolition work TIDA is doing and would like to know if TIDA is following proper procedure and if anyone oversees how demolished material is hauled away. Bob Beck (TIDA) said he will follow up about that project separately and requested Ms. K. Lundgren send him an email and copy Rich Rivetti (TIDA) explaining the area and activity she is concerned about.

Ms. Harvey said she is also concerned about Site 24. She asked if the pipelines being removed are part of Site 24. Mr. Forman explained part of the wastewater pipelines may run through Site 24, but they are a separate site not part of Site 24. Ms. Harvey said she believes Site 24 should have a full discussion at the RAB. Mr. Forman said there have been numerous RAB presentations about Site 24 that thoroughly covered the three phases of work at that site, as well as a PP/Draft RAP meeting.

Ms. Harvey said she agrees with Ms. Smith's statement that the Navy saves the toughest or most contaminated sites for last, and she feels that is what is happening with Halyburton Court. Mr. Forman said that is not the case. A major removal action, which substantially decreased the amount of contamination present at Halyburton Court, was completed several years ago. The project presented tonight includes Halyburton Court, but it is just to complete the site; the major cleanup is done there.

Closing Remarks

Mr. Forman thanked everyone for attending. The next RAB meeting will be Tuesday, June 21, 2016, at the Casa de la Vista. The meeting was adjourned at 9:32 p.m.

Action Items

#	Action Item	Due Date	Status
1.	Provide a Site YF3 Presentation	During 2016	Pending

19 April 2016 RAB Meeting Handouts

- Attachment A: NAVSTA TI RAB Meeting No. 182 Agenda
- Attachment B: Site 6: Upcoming Fieldwork and Site 12: Proposed Plan / Draft Remedial Action Plan
- Attachment C: Document Tracking Sheet
- Attachment D: Field Schedule

AGENDA
NAVAL STATION TREASURE ISLAND
ENVIRONMENTAL RESTORATION ADVISORY BOARD MEETING
Tuesday, 19 April 2016
Casa de la Vista Building 271, Treasure Island
MEETING NO. 182

I. WELCOME REMARKS AND AGENDA REVIEW

7:00 – 7:05 Welcome, Introductions
Lead: Keith Forman, Navy Co-Chair

7:05 – 7:10 Agenda Review
Lead: Alice Pilram, Community Co-Chair

II. OLD BUSINESS

7:10 -7:20 RAB meeting Minutes Approval Meeting 181
Lead: Keith Forman, Navy Co-Chair

7:20 – 7:30 BRAC Cleanup Team Update
Leads: DTSC and Water Board

III. NEW BUSINESS

7:30 – 8:10 Review of Site 12 Proposed Plan/Draft Remedial Action Plan and Upcoming Gateview Avenue Fieldwork
Lead: Bryce Bartelma
Presentation Q&A: RAB
Presentation Q&A: Community

8:10 – 8:30 Site 6 Upcoming Field Work
Lead: Bryce Bartelma
Presentation Q&A: RAB
Presentation Q&A: Community

8:30– 8:35 Document Tracking Sheet and Field Schedule
Lead: Dave Clark, Navy

8:35 – 8:45 Co-Chair Announcements and Future Agenda Items
Leads: Alice Pilram and Keith Forman

IV. COMMENTS ON NON-AGENDA ITEMS

8:45 – 9:00 Community Question and Answer Period
Lead: Keith Forman, Navy Co-Chair

9:00 Adjourn

Next Regular Meeting: No May 2016 Meeting

7:00 pm Tuesday, June 21, 2016 location Casa de
la Vist

Next Treasure Island Citizen's Advisory Board (CAB) Meeting: See the web site for latest dates
and times for future meetings: www.sftreasureisland.org

Next Interim RAB Community Member Conference Call: 7:00 p.m. Tuesday, 31 May 2016

Navy BRAC Web Site: <http://www.bracpmo.navy.mil> (click on map for Treasure Island)

*Navy San Diego Office Address:

Director
Navy BRAC PMO West
33000 Nixie Way
Building 50, Attention Keith Forman
San Diego, CA 92147

Keith Forman: *(619) 524-6073
Local phone number (unchanged) (415) 308-1458

*Note, this address and phone are new as of July 20, 2015



RAB Meeting

Site 6: Upcoming Fieldwork

Site 12: Proposed Plan / Draft Remedial Action Plan

Former Naval Station Treasure Island

April 19, 2016

Bryce Bartelma
Navy Project Manager

Site 6 Firefighter Training

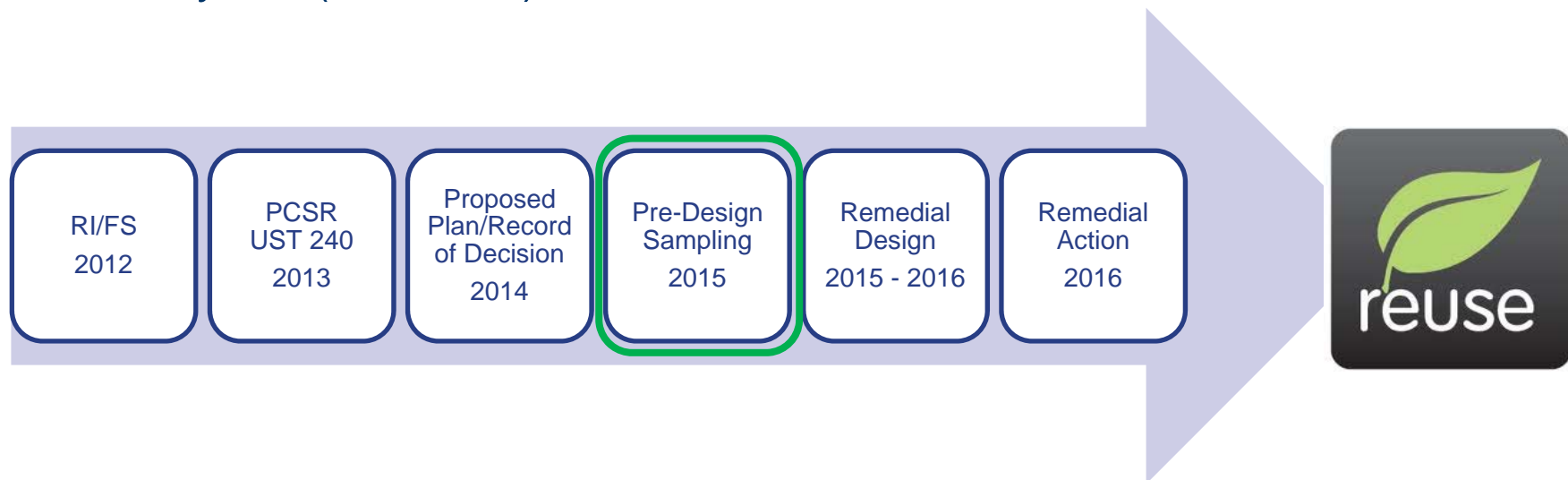


Firefighter Training – Extinguishing fuel oil fire, Treasure Island Damage Control School, 1945

Site 6 Environmental Cleanup Process



Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Process

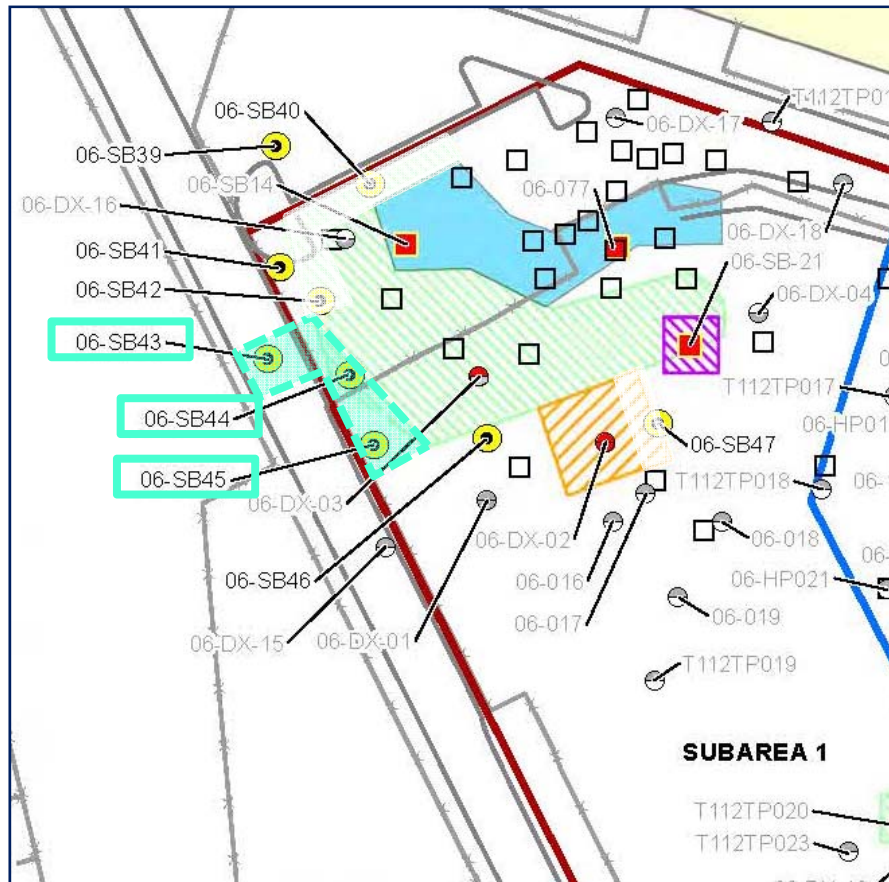


RI/FS – Remedial Investigation / Feasibility Study

PCSR – Post Construction Summary Report

UST – Underground Storage Tank

Site 6 Pre-Design Soil Sampling – Subarea 1



Purpose

- Refine Northwestern limits

Results

- Dioxins detected in 3 sample locations out of 9
 - Dioxin cleanup level is 12 parts per trillion
- Excavation will expand to the West and be reduced to the north and for a portion of deeper excavation area

Site 6 Pre-Design Soil Sampling – Subarea 2

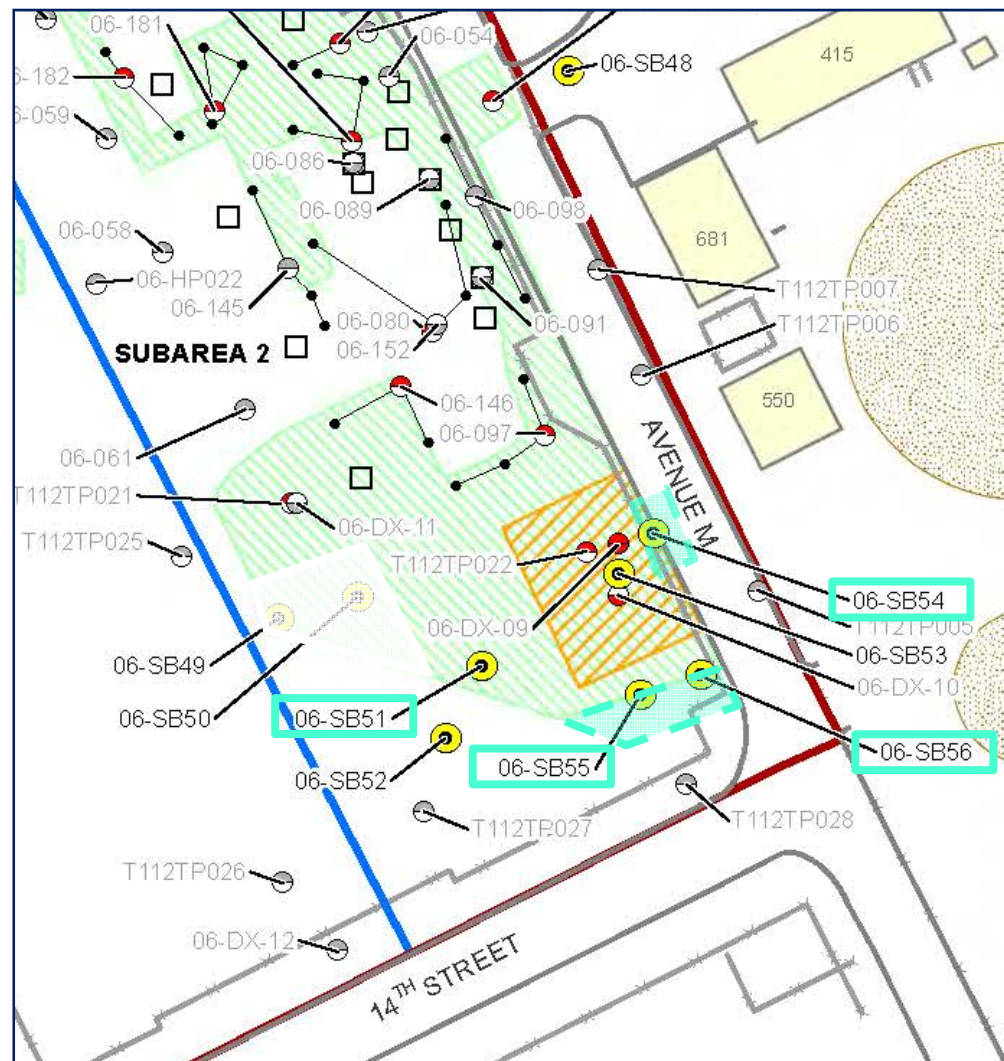


Purpose

- Refine Eastern and Southern limits
- Vertical delineation in deeper excavation area

Results

- Dioxins detected in 4 sample locations out of 8
- Expand Southeastern limits
- Reduce Southwestern limits
- Vertical delineation



Site 6 Pre-Design Soil Sampling – Subarea 3

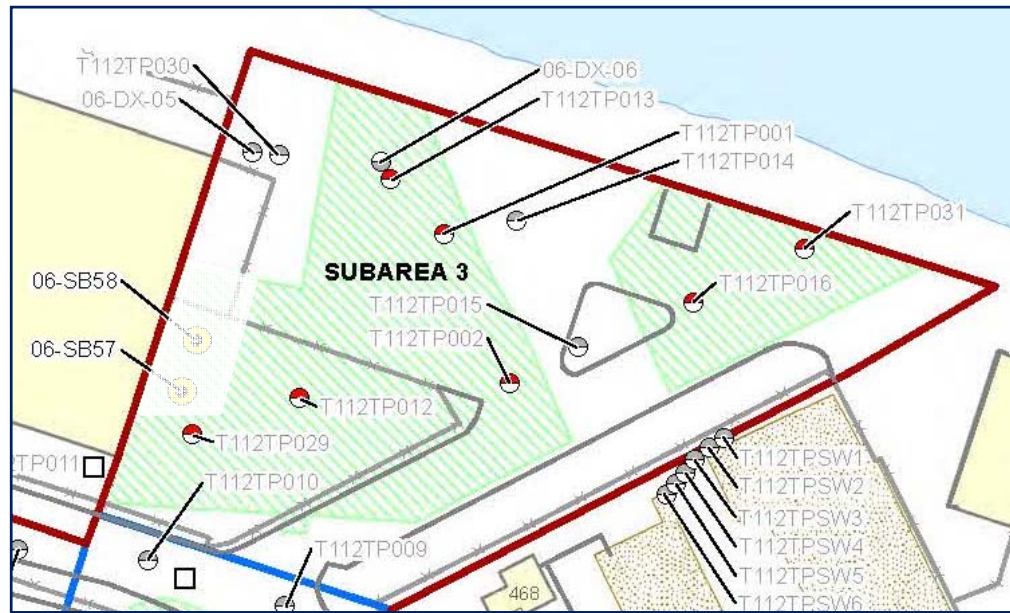


Purpose

- Refine Western limits

Results

- No Elevated Dioxin Detections – Slight Excavation Reduction



Site 6 Pre-Design Soil Gas Sampling

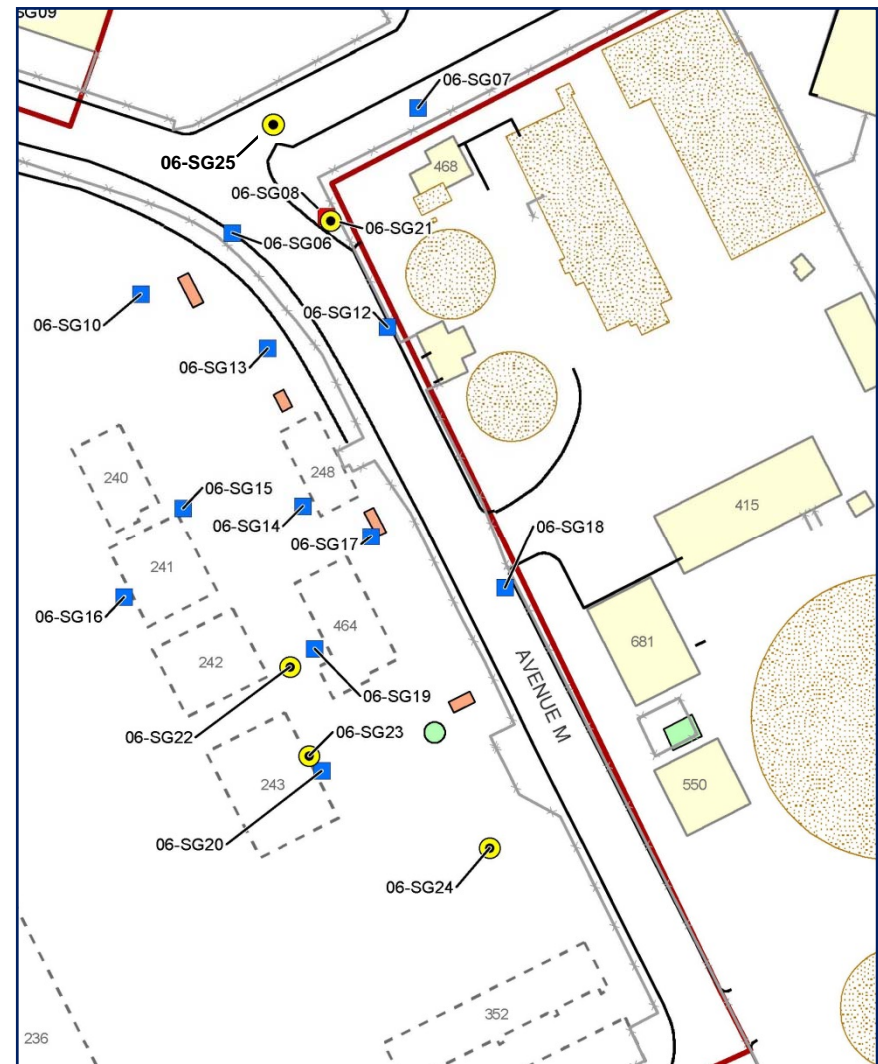


Purpose

- Soil Gas Sampling for Naphthalene

Results

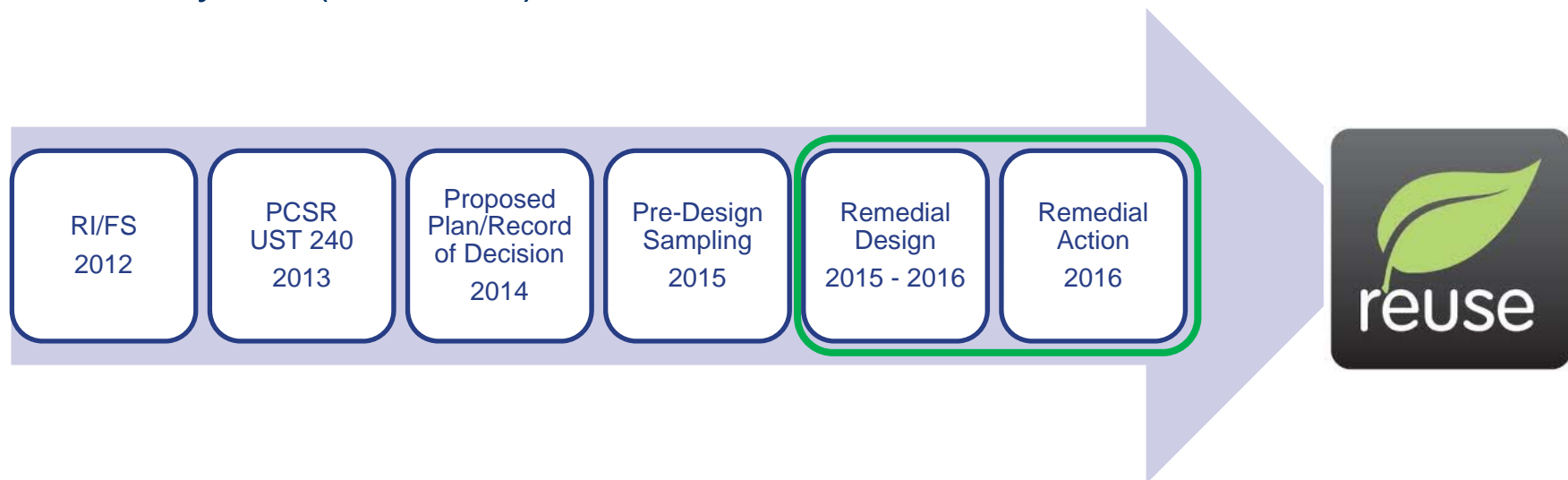
- No Detections of Naphthalene



Site 6 Environmental Cleanup Process



Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Process



RI/FS – Remedial Investigation / Feasibility Study

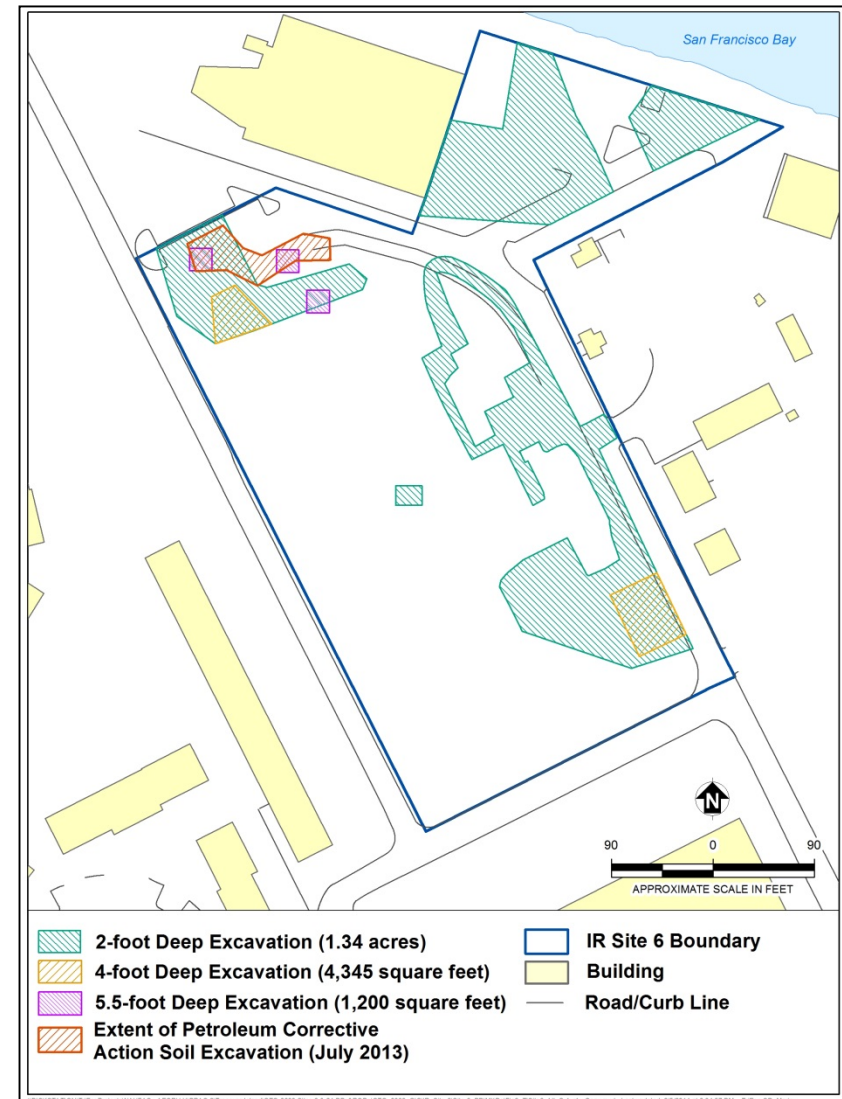
PCSR – Post Construction Summary Report

UST – Underground Storage Tank

Site 6 Field Activities



- Excavate select areas primarily for Dioxins in soil from 2.0 to 5.5 feet below ground. Dispose of up to 6,500 cubic yards of soil.
- Confirmation soil sampling
- Backfill with clean soil and compact to ground surface
- Install seven groundwater monitoring wells
- Four quarters of monitoring to ensure no groundwater issues



Site 6 Field Activities



Site 6 Schedule



- **Final Remedial Design and Remedial Action Work Plan**
 - April 15, 2016

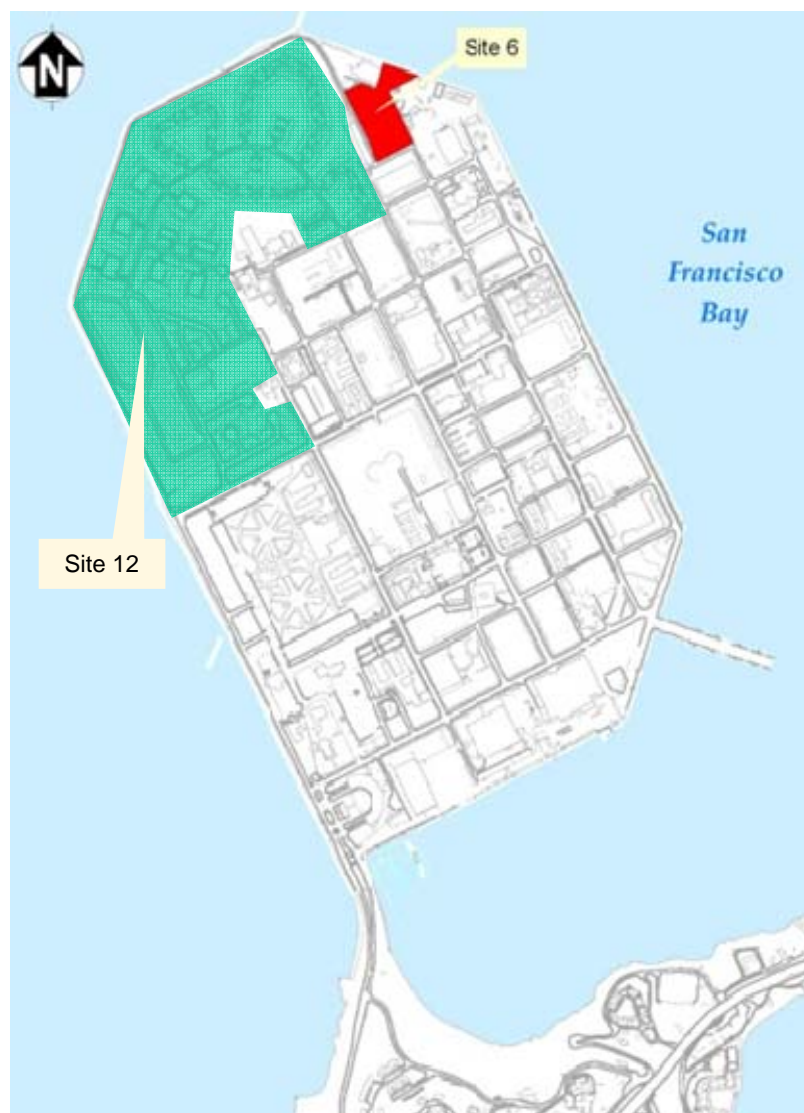
- **Fieldwork**
 - May 2, 2016 to June 10, 2016

- **Remedial Action Completion Report**
 - Fall 2016

- **Groundwater Monitoring**
 - Summer 2016
 - Fall 2016
 - Winter 2017
 - Spring 2017



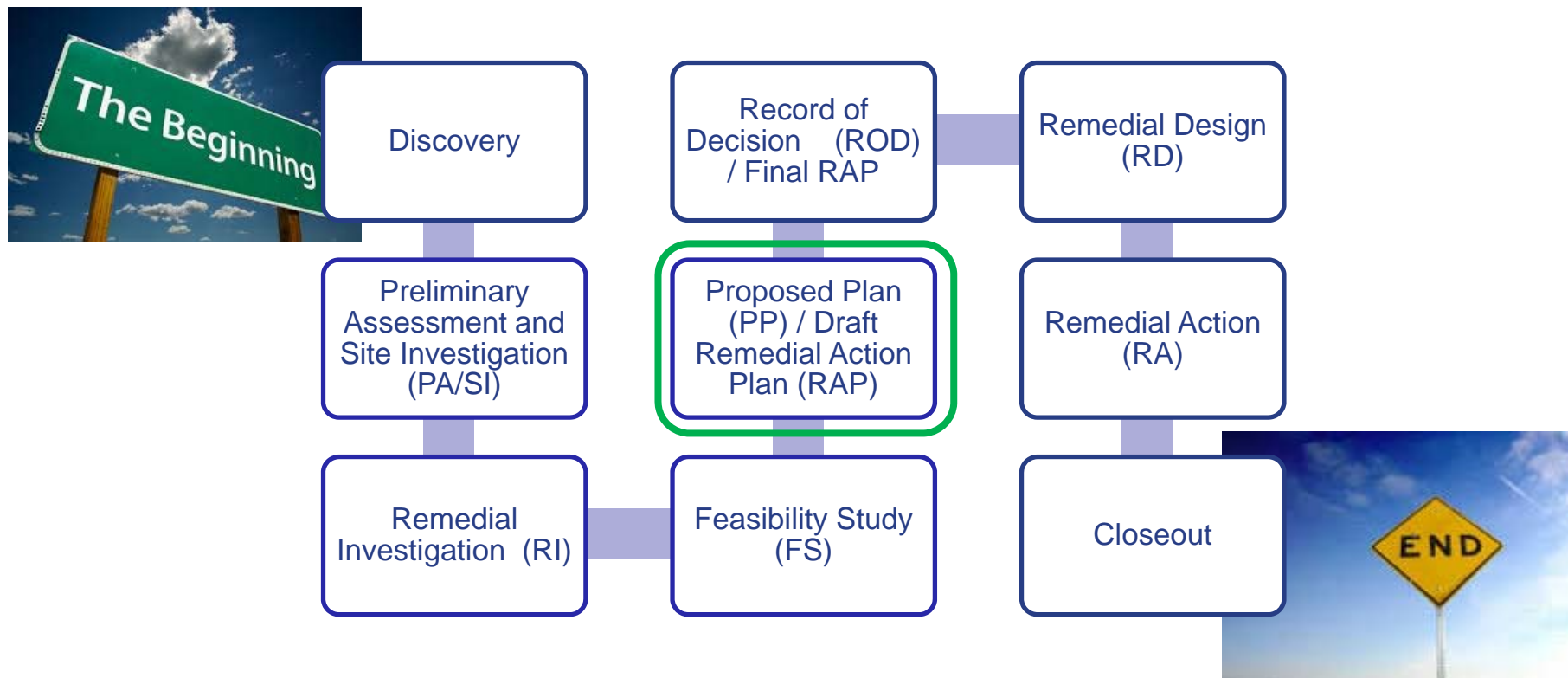
Site 12 Presentation



Site 12 Environmental Cleanup Process



- Proposed Plan does not include Solid Waste Disposal Areas (SWDAs) or radiological cleanup for remainder of site
- This will be a separate Proposed Plan issued in November 2017



Site 12 Proposed Plan



- Navy held Proposed Plan Public Meeting on March 30, 2016
- Comment period will close on April 21, 2016
- Navy will respond to public comments in the Draft Record of Decision (ROD) / Final Remedial Action Plan (RAP)



PROPOSED PLAN/DRAFT REMEDIAL ACTION PLAN
FORMER NAVAL STATION TREASURE ISLAND
Installation Restoration Site 12
San Francisco, California

March 2016

INTRODUCTION

The Department of the Navy presents this **Proposed Plan/Draft Remedial Action Plan (Proposed Plan/Draft RAP)**¹ for cleanup of chemical contaminants at **Installation Restoration Program Site 12 (Site 12)**, excluding the four solid waste disposal areas (SWDAs) located in Site 12 and the radiological program, at the former Naval Station Treasure Island (NAVSTA TI) (Figure 1). Contaminants were released to the environment during former operations on the former naval station. This Proposed Plan/Draft RAP addresses only non-radiological contaminants found at Site 12 that are outside the SWDAs. The SWDAs and the radiological contaminants are being addressed in a separate removal action and remedy selection process. The Navy conducted environmental investigations at Site 12 and has evaluated technologies and options to clean up the chemical contamination at the site.

This Proposed Plan/Draft RAP presents and summarizes cleanup (commonly referred to as remedial or remediation) alternatives that the Navy developed in the 2014 **Feasibility Study (FS)** and 2015 **FS Addendum** for Site 12. This plan also identifies the Navy's preferred alternatives to address soil and groundwater contamination. The Navy will select a cleanup alternative for Site 12 after all information submitted during the public comment period on the Proposed Plan/Draft RAP has been reviewed and considered. This decision will be made in consultation with the regulatory agencies: the U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), and the San Francisco Bay Regional Water Quality Control Board (Water Board). This decision will be documented in the **Record of Decision/Final Remedial Action Plan (ROD/Final RAP)**. The Navy may modify the preferred alternative or select another alternative presented in this Proposed Plan/Draft RAP based on new information or public comments. The public is encouraged to review and comment on all of the alternatives presented in this Proposed Plan/Draft RAP because the final decision will be made after all comments submitted during the review period are considered. Instructions on how to submit comments are found in the box on page 15.

The Navy's preferred alternatives are summarized below:

Soil Alternative S-3:

- Excavate discrete locations of soil with **chemicals of concern (COCs)** and chemical contaminants above their **remediation goals** (listed in Table 1) and dispose of the soil off site.

Groundwater Alternative GW-5:

- Excavate petroleum in soil near Gateview Avenue (called the Gateview Avenue Arsenic/**total petroleum hydrocarbon (TPH)** area) area where elevated levels of arsenic have been found in the groundwater, followed by addition of an oxygen release compound for **biostimulation**, if necessary;
- Conduct **in situ soil mixing with chemical oxidants** in the Gateview Avenue Arsenic/TPH area to destroy petroleum hydrocarbons; and
- Implement groundwater monitoring to verify the reduction of arsenic concentrations.

CONTENTS

Introduction	page 1
The CERCLA Process	page 2
Site Background	page 2
Nature and Extent of Contamination	page 2
Summary of Site Risks	page 3
Remedial Action Objectives and Remediation Goals	page 5
Summary of Cleanup Alternatives	page 7
Evaluation of Cleanup Alternatives	page 7
Summary of the Preferred Alternative	page 12
Regulatory Summary	page 12
The Next Step	page 13
Information Repositories	page 14
Project Contacts	page 14
Opportunities for Community Participation	page 15
Glossary of Terms	page 15

— NOTICE —

Public Comment Period
March 21 to April 21, 2016

Public Meeting
March 30, 2016

Casa de la Vista, 191 Avenue of the Palms
Building 271, Treasure Island
6:00 p.m. to 7:30 p.m.

¹ Words in **bold** type are defined in the glossary on page 15.

Site 12 Proposed Plan

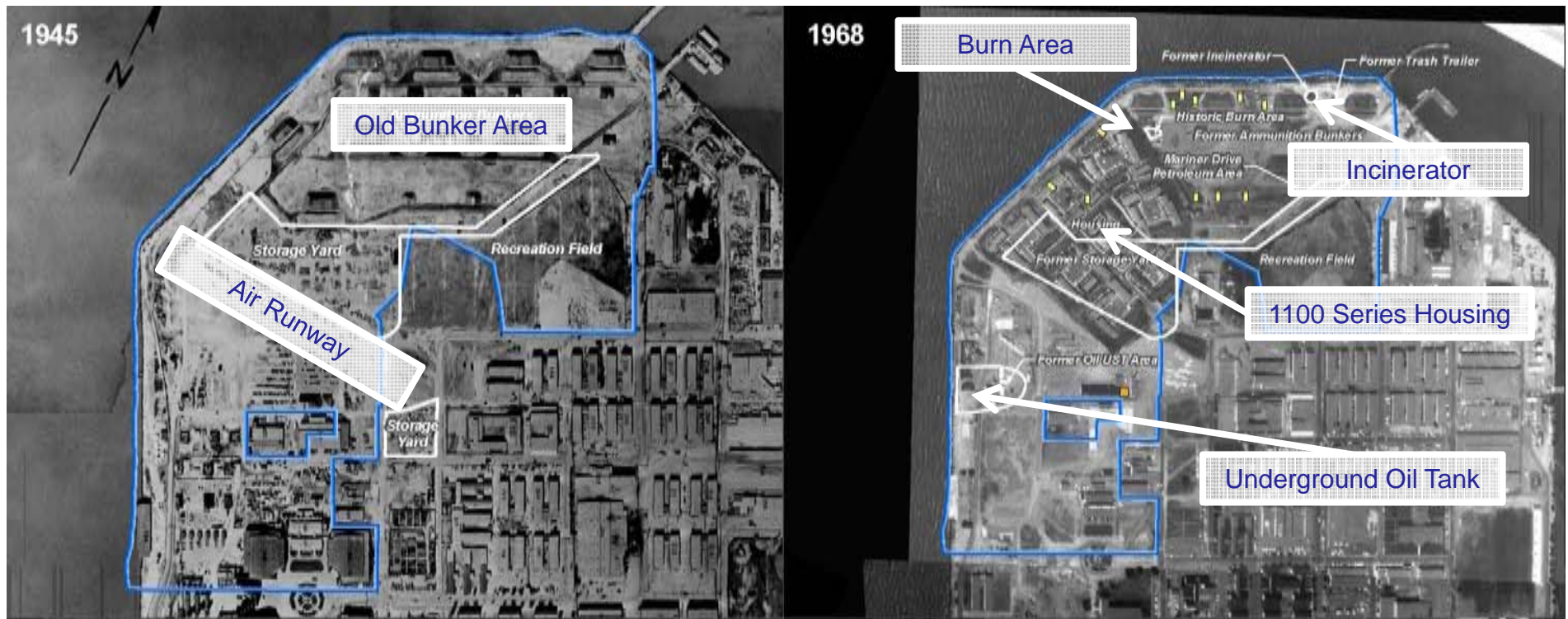


The Navy proposes to:

- **Remove contaminated soil for off-site disposal**
- **Treat residual petroleum in soil and arsenic in groundwater, and then**
- **Monitor groundwater for arsenic**



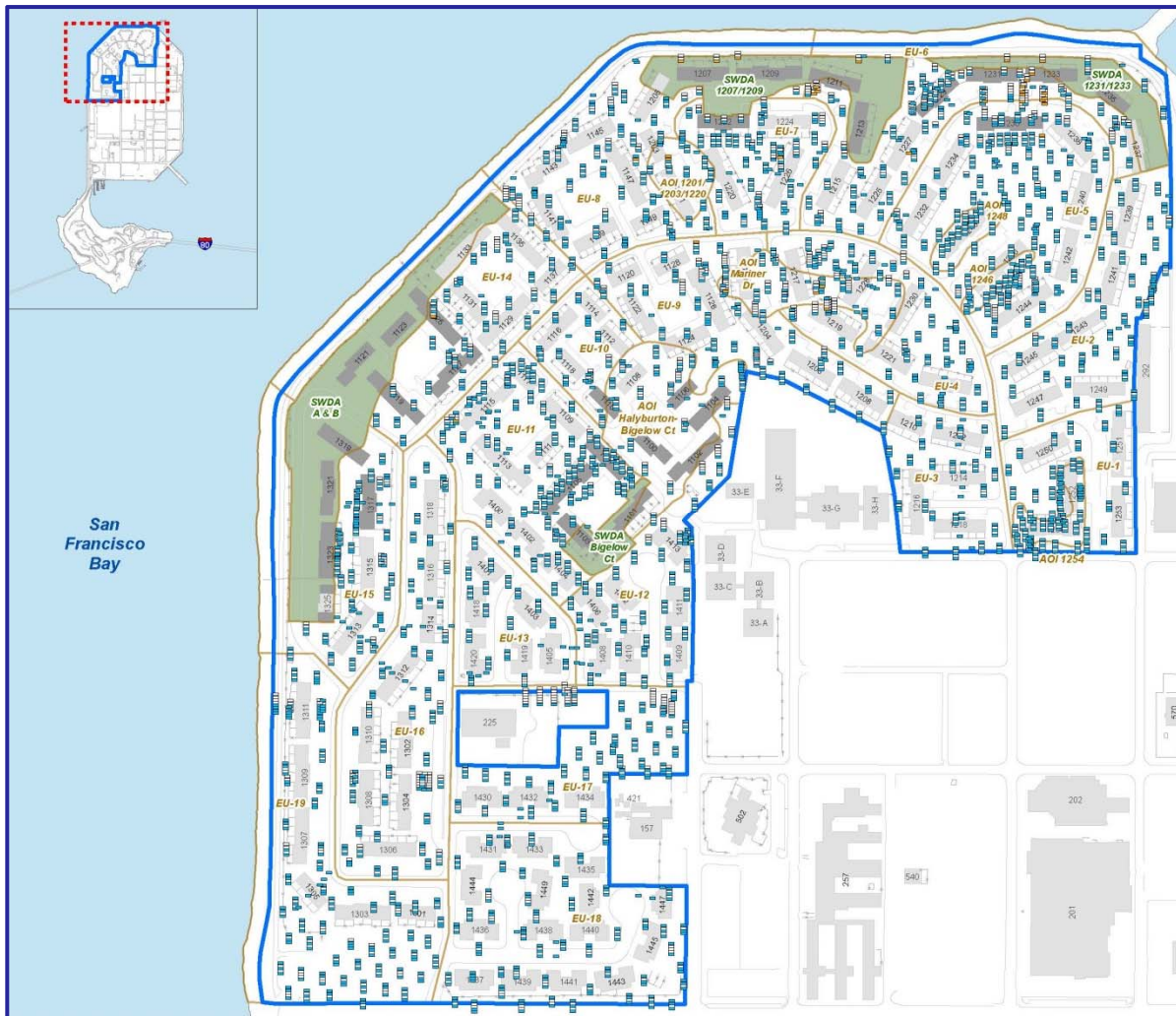
Site 12 Background



Site 12 Background



Site 12 Investigation and Sampling



Extensive Sampling

- Investigations started in 1999
 - Over 2,000 locations
 - Over 31,000 samples
- Additional data gap investigations in 2013 and 2014
- Defined nature and extent of chemicals of concern (COCs) in soil and groundwater

Site 12 – What Are We Cleaning Up?

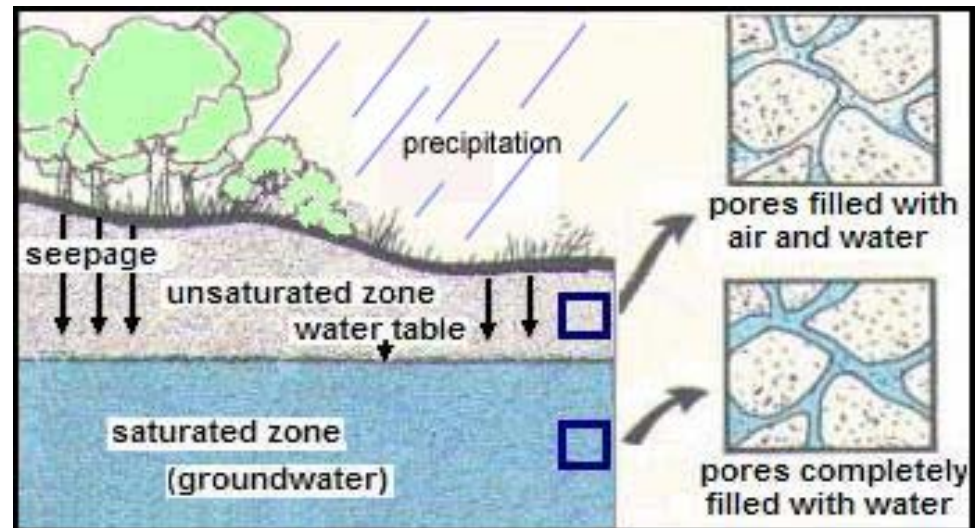


SOIL CHEMICALS

- Chromium
- Dioxins
- Lead
- Pesticides
- Petroleum
- Polychlorinated biphenyls (PCBs)
- Polycyclic aromatic hydrocarbons (PAHs)

GROUNDWATER CHEMICAL

- Dissolved Arsenic



Cleanup Alternatives Evaluated in Feasibility Study



SOIL

1. No Action
2. Engineered Cover and Excavation
3. Excavation and Off-Site Disposal












GROUNDWATER

1. No Action
2. Permeable Reactive Barrier
3. In-Situ Soil Mixing with Chemical Oxidants and Groundwater Monitoring
4. Excavation, Biostimulation and Monitored Natural Attenuation
5. Excavation, Biostimulation, In-Situ Soil Mixing and Monitored Natural Attenuation

Comparison Criteria for Evaluating Alternatives



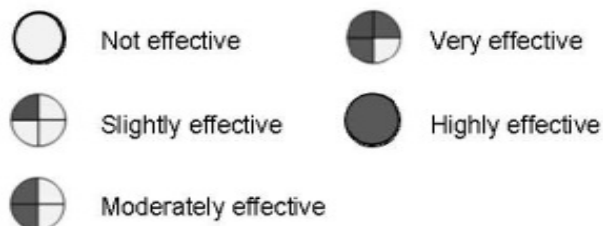
Threshold Criteria	Primary Balancing Criteria	Modifying Criteria
<p>Overall Protection of Human Health and the Environment </p> <p>Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) </p>	<p>Long-term Effectiveness </p> <p> Reduction of Toxicity, Mobility, or Volume (TVM) through Treatment</p> <p>Short-term Effectiveness </p> <p>Implementability </p> <p>Cost </p>	<p> State Acceptance</p> <p>Community Acceptance </p>

Comparison of Soil Alternatives



Table 3. Soil Alternatives Comparative Analysis			
Alternative Description	Alternative S-1	Alternative S-2	Alternative S-3
	No Action	Engineered Cover and Excavation	Excavation and Off-Site Disposal
Overall Protectiveness			
ARARs Compliance	Not applicable		
Long-term Effectiveness			
Reduction of toxicity, mobility, or volume through treatment			
Short-term Effectiveness			
Implementability			
Cost	\$0	\$2,419,000	\$4,936,000
Rank ^a	3	2	1

Key



^a Rank is the relative order of alternatives based on overall effectiveness for all criteria.

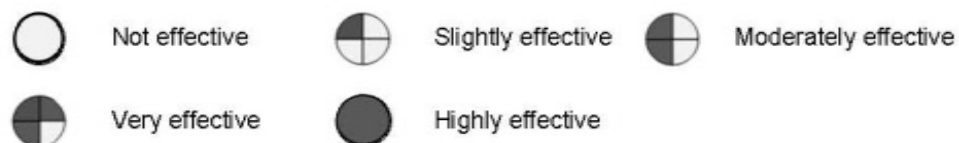
ARAR Applicable or relevant and appropriate requirements

Comparison of Groundwater Alternatives



Table 4. Groundwater Alternatives Comparative Analysis					
Alternative Description	Alternative GW-1	Alternative GW-2	Alternative GW-3	Alternative GW-4	Alternative GW-5
	No Action	Permeable Reactive Barrier	In Situ Soil Mixing with Chemical Oxidants, Groundwater Monitoring	Excavation, Biostimulation, MNA	Excavation, Biostimulation, In Situ Soil Mixing with Chemical Oxidants, MNA
Overall Protectiveness					
ARARs Compliance					
Long-term Effectiveness					
Reduction of toxicity, mobility, or volume through treatment					
Short-term Effectiveness					
Implementability					
Cost	\$0	\$8,425,000	\$3,611,000	\$7,359,000	\$5,595,000
Rank ^a	5	4	3	2	1

Key



^a Rank is the relative order of alternatives based on overall effectiveness for all criteria.

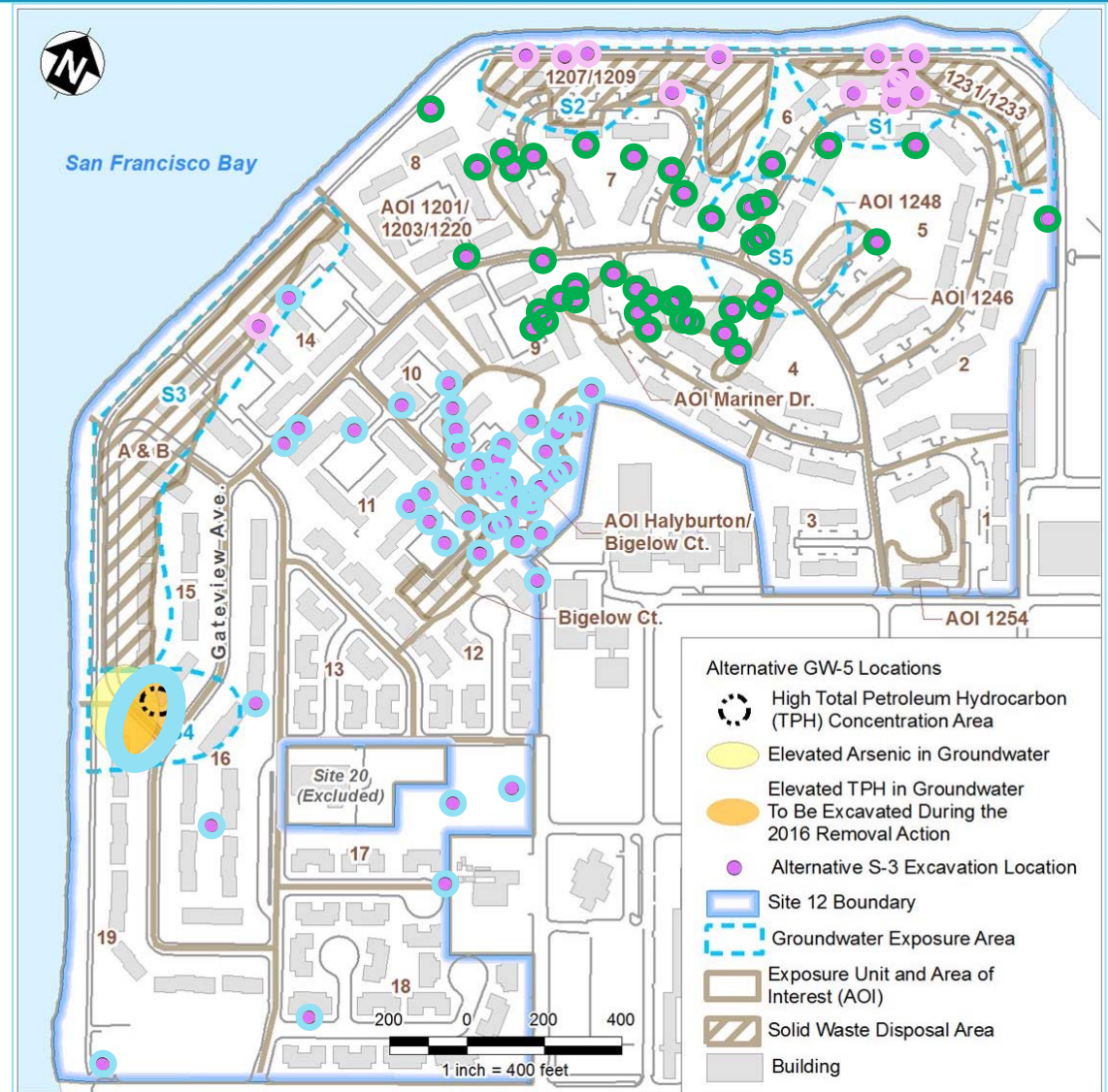
ARAR Applicable or relevant and appropriate requirements

MNA Monitored natural attenuation

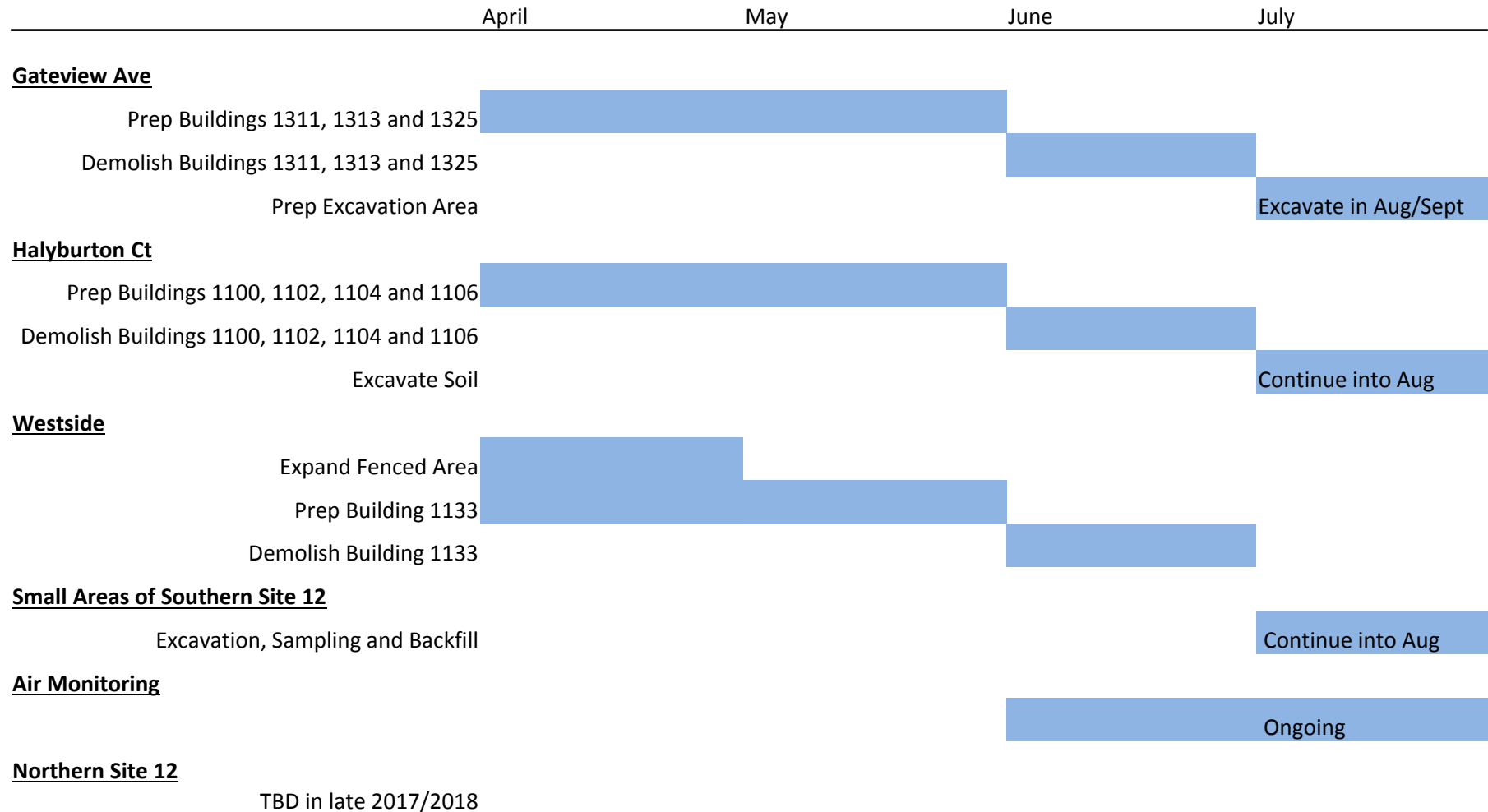
Cleanup Areas



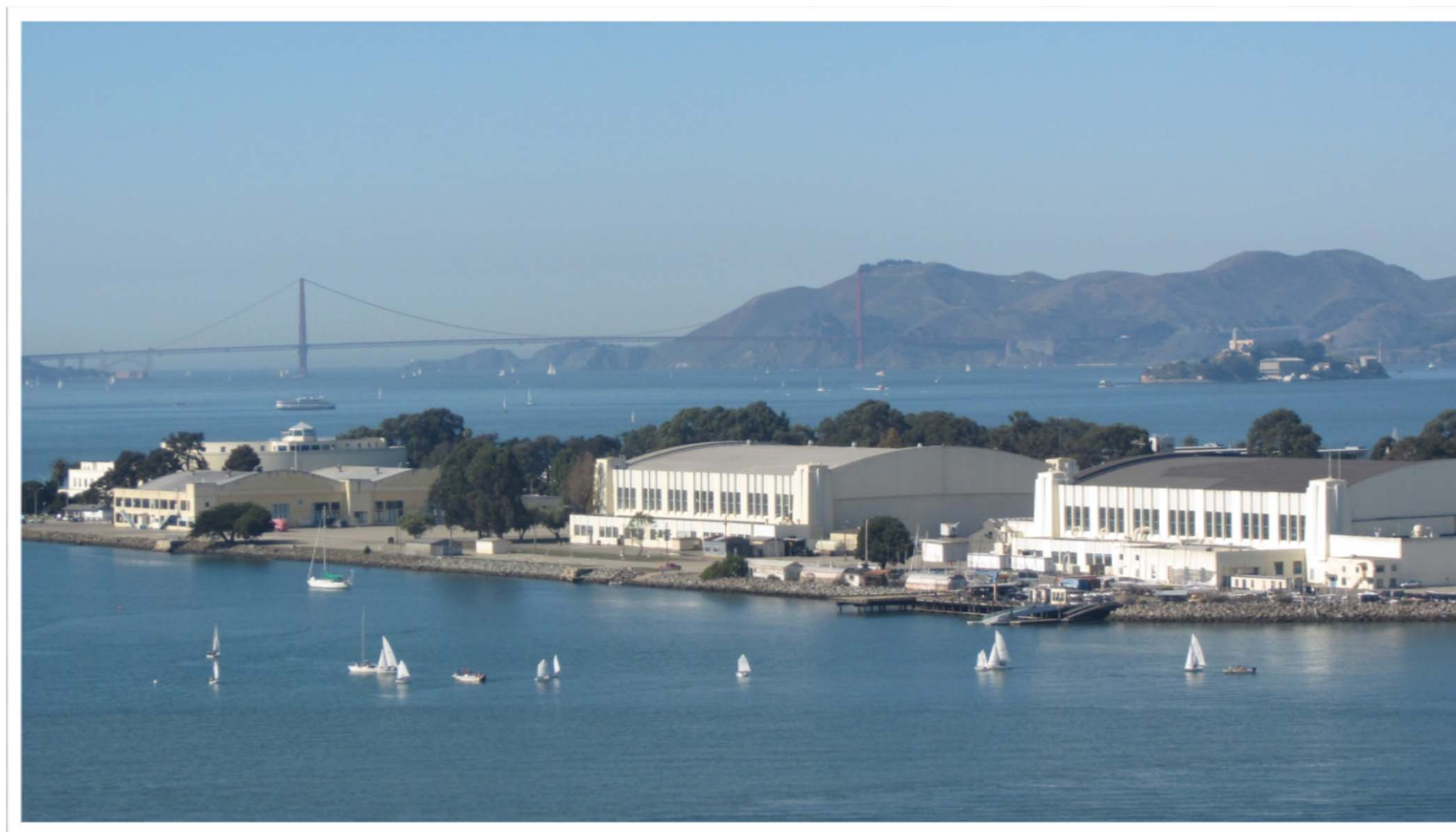
- Areas historically or currently being addressed by Solid Waste Disposal Area (SWDA) removal actions
- Locations to be addressed by a separate removal action in April 2016
- Remaining Areas



Site 12 Schedule: 4-Month Look Ahead



Questions?



**Naval Station Treasure Island
Environmental Cleanup Program
Document Tracking Sheet
April – September 2016**

			DRAFT							RTC				FINAL		
Item	Document Title & Information	CTO/DO	Draft to Agencies		Agency Comments						Preliminary RTCs to Agencies	Resolve and Concur on RTCs		Final to Agencies	Comments	
					Date Due	DISC	WATER BOARD	TIDA/TICD	RAB	OTHER						
Radiological Reports																
	FSS Report for Building 3	0006	10/15/15	✓	11/28/15	✓	X	✓			01/15/16	✓	03/02/16	✓	03/04/16	✓
	RPM: Kimberly Noble															
	PM: John Baur, Gilbane															
1	Site 31 Data Gaps Investigation WP/SAP	0014	01/06/16	✓	02/23/16	✓	X	✓	✓		03/14/16	✓	03/21/16	✓	04/19/16	
	RPM: Louie Cardinale															
	PM: Lora Battaglia, CB&I															
2	Site 30 Radiological WP/SAP Addendum	0012	02/08/16	✓	03/31/16	✓	X	✓			04/15/16		04/22/16		04/29/16	
	RPM: Louie Cardinale															
	PM: Lisa Bercik, CB&I															
3	FSS Report for Site 6	0025	02/22/16	✓	04/15/16	✓	X	✓	✓		04/25/16		05/09/16		05/30/16	
	RPM: Louie Cardinale															
	PM: Shanti Montgomery, TtEC															
4	Scoping Survey of Wastewater Lines Downstream from Former Bldg 233	0006	12/30/15	✓	02/12/16	✓		✓			03/28/16	✓	05/13/16		05/23/16	
	RPM: Kimberly Noble															
	PM: John Baur, Gilbane															
5	FSS Report for Historic Avenue N Storm Drain	0012	05/12/16		06/06/16						06/13/16		06/20/16		06/27/16	
	RPM: Kimberly Noble															
	PM: John Hackett, CB&I															
6	Scoping Survey Report for Wastewater Lines - Force Main	0012	05/12/16		06/13/16						06/17/16		06/22/16		06/27/16	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
7	FSS Report for Building 233 Catch Basins	0012	05/19/16		06/15/16						06/21/16		06/27/16		07/01/16	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
8	FSS Report for Site 30/30N/30S	0012	06/27/16		07/27/16						08/10/16		08/22/16		09/02/16	
	RPM: Louie Cardinale															
	PM: Lisa Bercik, CB&I															
9	FSS Report for Site 31	0014	07/21/16		08/20/16						09/03/16		09/17/16		09/30/16	
	RPM: Louie Cardinale															
	PM: Lora Battaglia, CB&I															
10	FSS Report for Site 24 (Building 342, Lot 69)	0012	08/01/16		08/29/16						09/12/16		09/19/16		09/26/16	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
11	FSS Report for Northeast Corner	0012	08/15/16		09/12/16						09/26/16		10/03/16		10/10/16	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
12	FSS Report for Site 20	0012	08/29/16		09/26/16						10/10/16		10/17/16		10/24/16	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
13	FSS Report for Site 32A	0006	TBD		TBD						TBD		TBD		TBD	Remob to collect additional data
	RPM: Kimberly Noble															
	PM: John Baur, Gilbane															
14	FSS Report for Site 32B	0012	11/30/16		12/30/16						01/27/17		02/10/17		03/03/17	
	RPM: Kimberly Noble															
	PM: Lisa Bercik, CB&I															
Site 6																
	RD/RAWP	0003	12/11/15	✓	01/11/16	✓	✓	✓			03/04/16	✓	03/25/16	✓	04/15/16	✓
	RPM: Bryce Bartelma															
	PM: Ted Tyler, CE2 Kleinfelder															
15	RACR	0003	09/22/16		10/24/16						11/21/16		12/19/16		01/13/17	
	RPM: Bryce Bartelma															
	PM: Ted Tyler, CE2 Kleinfelder															

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			DRAFT							RTC			FINAL				
Item	Document Title & Information		CTO/DO	Draft to Agencies	Agency Comments						Preliminary RTCs to Agencies	Resolve and Concur on RTCs	Final to Agencies	Comments			
					Date Due	DISC	WATER BOARD	TIDA/TICD	RAB	OTHER							
Site 12																	
16	TCRA WP		0006	03/18/16	✓	04/15/16	✓	✓	✓	✓	04/29/16		05/13/16		06/03/16		
	RPM: Bryce Bartelma																
	PM: Ted Tyler, CE2 Kleinfelder																
	PP/RAP		3208	12/30/15	✓	02/02/16	✓	✓	✓		03/03/16	✓	03/11/16	✓	03/21/16	✓	
	RPM: Bryce Bartelma																
	PM: Karen Miller, Helios																
17	ROD/RAP (non-SWDA, non-Radiological)		3208	07/19/16		08/19/16					09/16/16		10/10/16		11/07/16		
	RPM: Bryce Bartelma																
	PM: Karen Miller, Helios																
Site 24																	
18	RD/RAWP		0005	03/18/16	✓	04/22/16						05/20/16		06/26/16		07/10/16	
	RPM: Mukesh Mehta																
	PM: Carrie Ross, Parsons																
19	Data Gaps Summary Report			10/03/16		11/04/16						12/02/16		01/10/17		01/29/17	
	RPM: Mukesh Mehta																
	PM: Patrick Hamner, Trevet																
Site 32																	
20	ROD/RAP		3208	12/22/15	✓	03/02/16	✓	✓	✓		03/24/16	✓	03/28/16	✓	04/22/16		
	RPM: Kimberly Noble																
	PM: Karen Miller, Helios																
Other Reports																	
21	Finding of Suitability to Transfer (FOST) 5		:	03/11/16	✓	04/11/16	✓	✓	✓		04/25/16		05/09/16		05/23/16		
	RPM: John Hill																
22	2016 Basewide LUC Inspection Report		0058	03/23/16	✓	04/22/16					05/06/16		05/13/16		05/20/16		
	RPM: Kimberly Noble																
	PM: Jessica O'Sullivan, TriEco-Tt																
23	2015 Basewide GW Monitoring Report		0004	07/20/16		08/17/16					08/31/16		09/26/16		10/14/16		
	RPM: Louie Cardinale																
	PM: Patrick Hamner, Trevet																
24	2016 Site Management Plan		0058	07/05/16		08/02/16					08/23/16		09/06/16		09/13/16		
	RPM: Kimberly Noble																
	PM: Jessica O'Sullivan, TriEco-Tt																

✓ Production or review of document is complete. Abbreviations:

X Received notification of no comments or comments deferred to other agency.

Grey shading indicates the document is finalized.

Blue shading indicates agency review comments are due within the next 60 days or are outstanding.

Yellow shading indicates documents that will be issued draft or final within the next 60 days.

CTO/DO = Contract task order/delivery order
DTSC = Department of Toxic Substances Control
EPA = U.S. Environmental Protection Agency
FS = Feasibility study
FSS = Final status survey
LUC = Land use control
NA = Not applicable
NTCRA = Non-time critical removal action
PCSR = Post-construction summary report
PM = Project manager
PP = Proposed plan
RACR = Remedial action completion report
RAP = Remedial action plan
RAWP = Remedial action work plan

RD = Remedial design
ROD = Record of decision
RPM = Remedial project manager
RTC = Response to comments
SAP = Sampling and analysis plan
SWDA = Solid waste disposal area
TBD = To be determined
TCRA = Time-critical removal action
TICD = Treasure Island Community Developers
TIDA = Treasure Island Development Authority
TPH = Total petroleum hydrocarbons
TSP = Task specific plan
Water Board = Regional Water Quality Control Board

**Naval Station Treasure Island
Navy Field Schedule
April – September 2016**

Item	Activity and Investigation Area	Field Dates	Navy RPM (Contractor)	Complete
Site 6				
1	Remedial Action	Start: 05/02/16 Finish: 06/10/16	Bryce Bartelma (CE2 Kleinfelder)	
Site 12				
2	Phase III Non-Time Critical Removal Action	Start: 05/12/15 Finish: 06/07/16	Chris Yantos (CB&I)	
3	Time Critical Removal Action (Gateview, Discrete Areas, Halyburton)	Start: 06/14/16 Finish: 01/09/17	Bryce Bartelma (CE2 Kleinfelder)	
Site 24				
4	Soil Gas Data Gaps Investigation	Start: 07/13/15 Finish: 05/27/16	Mukesh Mehta (Trevet)	
5	Remedial Action	Start: 07/11/16 Finish: 11/18/16	Mukesh Mehta (Parsons)	
Site 30				
6	Soil Sampling and Surveys - Additional Field Work	Start: 05/20/16 Finish: 05/22/16	Louie Cardinale (CB&I)	
Site 31				
7	Soil Sampling and Surveys - Additional Field Work	Start: 05/09/16 Finish: 08/12/16	Louie Cardinale (CB&I)	
Other				
8	Historic Avenue N Storm Drain Removal	Start: 12/07/15 Finish: 05/31/16	Kimberly Noble (CB&I)	
	Basewide Groundwater Monitoring	Start: 03/14/16 Finish: 03/18/16	Louie Cardinale (Trevet)	✓

Abbreviations:

✓ Field work is complete
RPM Remedial project manager
TBD To be determined

Yellow shading indicates field activities that will start or finish within the next 60 days.

Grey shading indicates field activities are complete.